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92/F 253

The United States of America

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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

Bruce Lehman

Commissioner of Patents and Trademarks

Sandra J. Morta

Attest

TT.

US005693836A

United States Patent [19]

Winter et al.

[11] Patent Number: 5,693,836

[45] Date of Patent: *Dec. 2, 1997

[54] **PROCESS FOR THE PREPARATION OF POLYOLEFINS**

[75] Inventors: **Andreas Winter**, Glashütten/Ts.; **Martin Antberg**, Hofheim/Ts.; **Bernd Bachmann**, Eppstein/Ts.; **Volker Dolle**, Bensheim; **Frank Küber**, Oberursel; **Jürgen Rohrmann**, Kelkheim/Ts.; **Walter Spaleck**, Liederbach, all of Germany

[73] Assignee: **Hoechst Aktiengesellschaft**, Frankfurt, Germany

[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,278,264.

[21] Appl. No.: **484,457**

[22] Filed: **Jun. 7, 1995**

Related U.S. Application Data

[62] Division of Ser. No. 107,187, Aug. 16, 1993.

[30] **Foreign Application Priority Data**

Aug. 15, 1992 [DE] Germany 42 27 049.9

[51] **Int. Cl.**[6] **C08F 4/642**; C08F 10/06

[52] **U.S. Cl.** **556/11**; 556/53; 556/43; 556/58; 556/22; 556/38; 526/127; 526/160; 526/129; 526/348; 526/351; 526/943

[58] **Field of Search** 556/11, 53; 526/943

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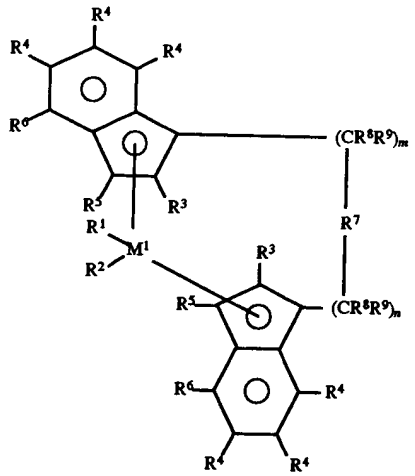
Primary Examiner—Mark Nagumo

Attorney, Agent, or Firm—John M. Genova

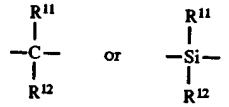
[57] **ABSTRACT**

A process for the preparation of an olefin polymer by polymerization or copolymerization of an olefin of the formula R^a—CH=CH—R^b, in which R^a and R^b are identical or different and are a hydrogen atom or a hydrocarbon radical having 1 to 14 carbon atoms, or R^a and R^b, together with the atoms connecting them, can form a ring, at a temperature of from –60° to 200° C., at a pressure of from 0.5 to 100 bar, in solution, in suspension or in the gas phase, in the presence of a catalyst formed from a metallocene in the meso-form or a meso:rac mixture, with meso:rac>1:99, as transition-metal compound and a cocatalyst, wherein the metallocene is a compound of the formula I,



(I)

in which M^1 is Zr or Hf, R^1 and R^2 are identical or different and are methyl or chlorine, R^3 and R^6 are identical or different and are methyl, isopropyl, phenyl, ethyl or trifluoromethyl, R^4 and R^5 are hydrogen or as defined for R^3 and R^6, or R^4 forms an aliphatic or aromatic ring with R^6, or adjacent radicals R^4 form a ring of this type, and R^7 is a



radical, and m plus n is zero or 1.

3 Claims, No Drawings